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EXAMINER
NAJJAR.S

ART UNIT	PAPER NUMBER
2154	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

1- File Copy

☒ Responsive to communication(s) filed on _Oct 27, 2000_

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters,   **prosecution as to the merits is closed** in accordance with the practice under   *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire _____3___ month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) _1-16_____ is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) _1-16_____ is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

1.   This action is responsive to the amendment filed on October 27, 2000. Claims 5-9 were amended. Claims 13-16 are newly added. Claims 1-16 are pending examination.

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CAR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

3.   Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malkin et al., U.S. Patent No. 6,085,193.

Malkin teaches the invention substantially as claimed including a method and system for prefetching data for clients associated with a proxy server hierarchy and an enhanced content server data transfer to the client (see abstract).

As to claim 1, Malkin teaches a caching system for use with a data distribution system, comprising:

a master cache (content server 20) for receiving content for distribution by the data distribution system to one or more users (see fig. 1; col. 4, Malkin discloses a content server 20 that distributes content to the lower level proxy server);

a proxy server for receiving content that is distributed by the data distribution system from the master cache (see fig. 1; col. 4-5, Malkin discloses several levels of proxy servers that retrieve content from the content server on behalf of the clients and also discloses that a single level proxy server may exist between the content server

and the client);

one or more local caches for storing the content received by the gateway destined for the one or more users (see fig. 1-2; col. 7, Malkin discloses second prefetch cache 249 at the client computers);

harvesting software coupled to the master cache and the uplink for processing information corresponding to probability distributions that the local caches satisfy requests from their respective users to predictively distribute the desired content to the respective users (see fig. 2; col. 6, Malkin discloses proxy server logic 295 which predictively retrieves content for the client from the content server).

Malkin does not explicitly disclose a gateway connected to the master cache. Malkin discloses that proxy servers are used to retrieve content from the content server (master cache) (see col. 4-6).

However, "Official Notice" is taken that the concept and advantages of using a Gateway to connect a resource distribution network to a subscriber or client network is old and well known in the network communication art.

Therefore, it would have been obvious to on of ordinary skill in the art at the time of the invention to modify Malkin by including at the proxy server 24 a gateway server to connect the local cache with the content server (master cache) . One would be motivated to modify Malkin by including a gateway that connects the local caching system to the content server (master cache) system to allow data to flow between different networks.

As to claim 2, Malkin teaches a caching system for use with a data distribution system as in claim 1 above, wherein the harvesting software processes information contained in transmit hit/miss data and probability tables generated at the master cache (see figs. 2-3; col. 9-15, Malkin discloses AA statistics table 261 at the content server and proxy server for predictively retrieving content for the client).

As to claim 3, Malkin teaches a caching system for use with a data distribution system as in claim 1 above, wherein the content comprises http objects (see col. 4-6).

As to claim 4, Malkin teaches a caching system for use with a data distribution system as in claim 1 above.

Malkin does not explicitly disclose the limitation of NTTP objects. Malkin does disclose that the content distributed by the master cache is Internet content.

"Official Notice" is taken that the concept and advantages of distributing NTTP objects to data networks is old and well known in the network communication art. Therefore, it would have been obvious too one of ordinary skill in the art at the time of the invention to modify Malkin to include NTTP objects in the data distributed by the master cache. One would be motivated to do so since NTTP objects are well known and familiar formats for transferring information on the Internet.

As to claim 5, Malkin teaches a caching system for use with a data distribution system as in claim 1 above including indicating that content has arrived at the proxy server 24, for enabling the proxy server to prefetch content on behalf of the local cache, for requesting content to be transferred from the proxy cache to the local cache, for verifying that content has been transferred to the local cache during the transfer process, for disabling the proxy as an intermediary node for requesting content on behalf of the local cache at the completion of the process (see fig. 2; col. 10-19, Malkin discloses that the proxy server communicates with the local cache system of the client to request content on behalf of the client from the content server using the prefetch updating means and communication protocol used therebetween).

Malkin does not explicitly disclose a gateway connected to the master cache. Malkin discloses that proxy servers are used to retrieve content from the content server (master cache) (see col. 4-6).

However, "Official Notice" is taken that the concept and advantages of using a

Gateway to connect a resource distribution network to a subscriber or client network is old and well known in the network communication art.

Therefore, it would have been obvious to on of ordinary skill in the art at the time of the invention to modify Malkin by including at the proxy server 24 a gateway server to connect the local cache with the content server (master cache) . One would be motivated to modify Malkin by including a gateway that connects the local caching system to the content server (master cache) system to allow data to flow between different networks.

Malkin does not disclose the claimed limitation of a pseudo client for acting as a sibling cache and receiving an entitlement message for requesting and verifying content on behalf of the client. Malkin does disclose that the proxy server communicates with the local cache system of the client to request content on behalf of the client from the content server using the prefetch updating means and communication protocol used therebetween (see fig. 2; col. 10-19).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Malkin by using one of several communication protocols such as the pseudo client to communicate between the client cache and proxy server so that content is retrieved and verified on behalf of the client. One would be motivated to do so since the same functionality is achieved.

As to claim 6, Malkin teaches a caching system for use with a data distribution system as in claim 5 above, wherein the Internet protocol is used to communicate between the local cache and the proxy server cache (see col. 4-6).

As to claim 7, Malkin teaches a caching system for use with a data distribution system as in claim 5 above,.

Malkin fails to disclose the use of Internet cache protocol to communicate between the local cache and proxy cache.

However, "Official Notice" is taken that the concept and advantages of using the Internet cache protocol (ICP) is old and well known in the Internet communication art. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Malkin by using the ICP to communicate among the caches to provide a lightweight message format to be used for communicating among Web caches. One would be motivated to use ICP in Malkin to exchange hints about the existence of URLs objects in neighbor caches.

As to claim 8, Malkin teaches a caching system for use with a data distribution system as in claim 1 above, wherein the harvesting software processes statistics derived from the master cache (content server) and the local cache to produce a list of content to add to the master cache and a list of content to delete from the master cache and transmitting the verified content from the master cache to the local cache (see fig. 2; col. 9-15, Malkin discloses that proxy server logic 295 and content server logic 268 communicate statistical information to predictively retrieve or delete content based on probability calculated from clients request history).

Malkin does not disclose the claimed limitation of a pseudo client for verifying content on behalf of the client. Malkin does disclose that the proxy server communicates with the local cache system of the client to request content on behalf of the client from the content server using the prefetch updating means and communication protocol used therebetween (see fig. 2; col. 10-19).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Malkin by using one of several communication protocols such as the pseudo client to communicate between the client cache and proxy server so that content is retrieved and verified on behalf of the client. One would be motivated to do so since the same functionality is achieved.

Claims 9-16 do not teach or define any new limitation above claims 1-8 and therefore are rejected for similar reasons.

4.   Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saleh Najjar whose telephone number is (703) 308-7613. The examiner can normally be reached on Monday-Friday from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, AN MENG AI, can be reached on (703) 305-9678. The fax phone number for this Group is (703) 308-9052.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-9600.

Saleh Najjar

Examiner Art Unit 2154